Development of the mine is accomplished with seven or eight entry mains with entries on 80 foot centers and crosscuts on 100 foot centers. The submains for panel development typically use a five entry system with similar entry centers. Panels are developed off the mains or submains with a four or five entry system with rooms driven on either side of the development entries. The Emery Mine does not use maximum extraction techniques, but instead uses a system of partial secondary extraction (except in the First South, 14th & 15th West panels, and the 4th East Submains ~~panel~~ where full extraction will occur) which leaves the roof intact (see Chapter V Part B).

During the term of this permit the planned production for the Emery Mine is 1.7 million tons per year. The mine will produce this coal with five continuous miner sections. Producing at this rate, the mine will continue operations until 2010 at which time the IJ Zone will be mined out. At that time final reclamation will begin as discussed in Chapter III.

4 EAST PORTAL

Site Description

The site is entirely within the surface area owned by Consolidation Coal Company. Coal ownership is also in Consolidation Coal Company's name.

Geology:

Drill hole FC 702, located on the site, was cored from the surface to below the IJ seam. It provides a detailed stratigraphic sequence and geochemical analyses to characterize the overburden to be stockpiled on the site. The following three pages show the lithology of the overburden and contain the geochemical test results on strata intervals. The portal excavation does not go any deeper than the top eleven (11) feet of the IJ seam.

Acid-Forming Potential:

Sulphur values (PS, SO4S, OS, and TS) are low throughout the strata. Moreover, pyritic sulphur, a potential acid former, is present in very low concentrations (less than 0.01 percent), so the acid-forming potential is quite small. As a result, acid production is not anticipated to be a problem within the proposed construction area.

Alkalinity-Forming Potential:

High pH and/or high SAR can cause piping, surface crusting, soil structure problems, and plant toxicities. The only samples with alkaline pH (8.1-8.3) occurred below the coal seams. Likewise the floor strata samples tested distinctly more sodic than the overburden. Since the excavation does not go this deep, alkaline material production is not anticipated.

FILE IN: Expandable 07212006

Refer to Record No. 0016
in C0150015, 2006, Incoming
for additional information

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IV.A.3 MAXIMUM ECONOMIC RECOVERY

UMC 784.13(b)(6), 817.59

The mining operation at the Emery Mine maximizes the recovery of the IJ Zone while maintaining safety as a primary priority. The following criteria are used to determine the mineability of the coal:

1. The minimum required mining height is 5 feet.

2. Two feet of combined roof and floor coal is left. The shale under the coal has a high clay content making it susceptible to water requiring a minimum 1.5 feet of floor coal to be left in place to prevent floor heaving. In areas of shale top, top coal must be left to maintain roof stability.

3. The maximum mining height will be 10 feet from a safety standpoint to provide stable coal pillars (see Chapter V Part B).

The Emery Mine uses a partial extraction technique during secondary mining, except in the First South, 14th & 15th West panels, and the 4th East Submains ~~panel~~, to maintain a stable top. Partial and full pillar extraction plans for the mine are described in Chapter V, Section V.B.1. In those areas where protection must be given to prevent subsidence (see Chapter V Part B), no secondary mining will take place. By leaving larger pillars in these areas the surface should remain unaffected.

There are no coal seams above the IJ Zone that are considered mineable under the above mentioned criteria. Any future operations will take place in coal seams below the IJ Zone and will not be adversely affected by current mining operations in the IJ Zone.

Additional information related to recoverability of the other coal seams is in Appendix IV-I. This appendix deals with the maximum economic recovery of the coal in Federal Lease U-5287.

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The mining method used in most of the mine is room and pillar with partial pillar removal. Full extraction mining (planned subsidence) is proposed at Emery ~~only~~ in the First South, 14th & 15th West panels, and the 4th East Submains ~~panel~~, as noted on Plate V-5. As a result, any subsidence ~~outside of the First South panel~~ these areas would fall into the unplanned category. Figure 1 pg. 28 shows the partial pillar splitting diagram employed underground. This layout is the result of past experience as well as state and federal regulations pertaining to roof control and ventilation. All pillar splitting will be approved by MSHA. A pillar split diagram specific to full extraction is provided in Figure 2 (page 29).

Consol intends to prevent subsidence from affecting Quitchupah Creek, Christiansen Wash and the alluvial valley floor area on the west side of the permit area (Refer to Plate V-5). There will be no full extraction within the designated buffer zones. An intermittently occupied dwelling in Section 30 will also be protected from subsidence. As of the date of this writing, a subsidence waiver has not been obtained on this dwelling. At such time as a waiver is obtained, the Division shall be notified and the buffer around this dwelling will be removed. Other than these features, the presubsidence survey, and our knowledge of the permit area confirms that there aren't any structures overlying present or future underground workings for which mitigation of subsidence effects would be overly difficult.

The three above noted features will be protected by establishing buffer zones which in turn are created by leaving coal pillars of adequate size beneath these areas. The dimensions of the buffer zone will be determined by the overburden depth and the angle of draw. With respect to Quitchupah Creek and Christiansen Wash, the buffer zone will include an additional standoff distance of 100 ft. on either side, as required by UMC 817.57. The pillar dimensions are based on established geotechnical information and a factor of safety for long term pillar stability. The partial pillar splitting design data can be found at CH V Page 28a, 28b, and 28c. A pillar split plan sketch can be found at CH V Page 28 and Figure V-1 on CH V Page 28d. As can be seen from the following design data this partial pillar splitting plan will not result in subsidence, and is considered unplanned subsidence per the MRP.

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9. Resurveys of a point should consist of a vertical traverse having a closure of at least 0.50 feet. If significant movement is detected, (±.5'), a horizontal survey to that point will also be performed to check horizontal movement. The horizontal check survey may consist of a "side shot" where angles and distance are double checked, and need not be a closed traverse.

10. Monitoring points will consist of a concrete base and brass cap installed according to Figure V-8.

Plate V-5 shows the existing and future monitoring points for the permit area.

Consol will provide 3 copies of a subsidence monitoring report to DOGM within one month after completion of any subsidence monitoring field survey conducted pursuant to the approved subsidence control plan. Subsidence monitoring reports shall contain the following information:

1. Mine maps showing where pillars have been pulled and the month and year that such pillars were removed or partially removed.

2. Maps showing the location of survey monitoring stations and tension cracks and/or compression features visible on the surface.

2a. The subsidence monitoring points above the areas outlined on Plate V-5 as full extraction areas (planned subsidence)~~1~~1st ~~South panel~~ will have photographs recorded both pre subsidence and post subsidence.

3. The differential level and horizontal survey summary.

4. Brief narrative explaining any "significant movement" and any action the applicant has taken to mitigate the effects of such movement or any tension or compression features visible on the surface.

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If subsidence should materially damage, reduce the value, or alter the usage of surface lands and structures, Consol intends to do the following:

1. For repair of material damage to the land, Consol will mitigate the damage as mutually agreed upon by Consol , the surface owner of record, and the Regulatory Authority. If the planned subsidence does not pose a safety hazard, Consol in consultation with DOGM may leave the effects un-mitigated. Consol realizes that the mitigation of some areas would result in more surface effects than the actual subsidence and that waiting to repair all cracks in an area at one time rather than one by one, may allow time for self healing and may reduce the vehicle traffic, limiting effects to adjacent areas and access roads. If it is decided to mitigate a site, the ingress and egress path to the site will be left in a stable manner, as agreed upon by Consol, the surface owner of record, and the Regulatory Authority. With respect to the 1st South full extraction panel, Consol is the surface owner of record. The surface effects of subsidence over the 1st South panel and the 4th East Submains are expected to be mostly surface tension cracks, and depressions. These cracks will be graded and /or backfilled as required by 645-301.525.510.

2. For subsidence damage to structures and State appropriated water supplies, ,the options that may be used in the mitigation process may include, but are not limited to, the following, as outlined and expanded upon, in R645-301-731.530, R645-301-525.520, and R645-301-525.530 of the Utah Coal Mining Rules:

   (a) Restore, rehabilitate, or remove and replace, to the extent technologically and economically feasible, each materially damaged structure, feature or value.

   (b) Purchase the damaged structure or feature (except structures or features owned by the person who conducts the underground coal mining activities) for its pre-subsidence fair market value. To the extent technically and economically feasible, restoration will be achieved within a reasonable period of time after the damage from subsidence has occurred.
   (c) Compensate the owner of any surface structure that has been materially damaged by subsidence. This can be accomplished by purchasing a non-cancelable insurance policy.

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